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ABSTRACT

This investigation is part of a larger program conducted by a university department of curriculum and an instruction research team investigating 400 variables affecting learner achievement, teacher effectiveness, and teacher qualifications. This part of the study examines the variables of student teachers' over-all grade point average, average in professional education classes, and average in first student teaching experience, in order to determine which characteristics of student teachers most affect the academic achievement of their pupils. The study concludes that only long-term variables have significant effect on learner achievement, and that immediate teacher behaviors are of negligible significance to the learning process. (Author/LH)

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THE EFFECTS OF CERTAIN SELECTED VARIABLES IN STUDENT TEACHERS' PREPARATORY PROGRAMS ON THE LEVELS OF ATTAINMENT OF THEIR STUDENTS

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Background and Need

Early studies in educational research focused on and were limited to examining the learner (Zais, 1976). The emergence of observation instruments in the early 1960's made possible studies of teacher-student relationships. Since then a wealth of studies have focused on teacher behavior.

In their review of those studies conducted between 1900 and 1952, Marsh and Wilder (1969) concluded that no teacher activity correlates with student achievement. In a similar review, Wallen and Travers (1969) concluded similarly that "no single teacher act correlates with learner achievement." Apparently the teacher's choice between didactic and dialectic styles makes no difference. Gage and Birliner (1976) reviewed one hundred studies comparing the discussion method with the lecture method and found that 51 percent favored the lecture; 49 percent favored discussion.

In recent years many studies have been conducted to determine the effect of group size on learner achievement, but such research concludes that whether the teacher uses a group centered approach at all (compared to a teacher centered approach) makes no difference in the resulting learner achievement (Lembo, 1969). In fact, it doesn't seem to matter whether the teacher is indeed a professionally prepared teacher at all. Three studies which compared the ability of teachers with that of off-the-street-people to effect the attainment by students of preset objectives concluded that the teachers were not superior to their counterparts (Popham, 1971). Clark's studies (1976) seem to reinforce

Popham's findings by discovering that experience is of little help to teachers. Clark found that with repeated lessons, teachers do not seem to alter their teaching processes; they do not change their subject focusing, their activities, their feedback, or their summaries. In 1978, Gage stated that "Reviewers have concluded with remarkable regularity that few consistent relationships between teacher variables and effectiveness criteria can be established."

Nevertheless, while teaching methods seem not to make a difference in learner attainment, somehow teachers do (Veldman, 1974). Recent studies are beginning to locate general areas in which teacher behavior improves learning; areas such as classroom management (Doyle, Good) and human relations (Aspy, 1979; Cogan, 1958; St. John, 1971).

Purpose and Organization

This investigation is part of a larger program conducted by a university department of curriculum and instruction research team. The over-all program represents an attempt to analyze 400 variables to determine their effect, if any, on attainment of students instructed by student teachers. In particular, this study examines three variables to determine whether they affect cognitive attainment. These are the teacher's (1) over-all grade point average, (2) average in professional education classes, and (3) average in first teaching fields.

Sample

This study began with the involvement of 44 secondary level student teachers and their 4,656 students. Thirty classroom supervisors

from nine school buildings were selected for participation in this program. The criteria used for their selection include the following:

1. Hold a valid teaching certification in the field in which they are teaching
2. Have completed 2 years of full teaching experience - one of which is in the local district
3. Agree to serve as a classroom supervising teacher for two semesters, and
4. Agree to attend inservice meetings sponsored by the local teacher education center and the involved university curriculum and instruction department.

The student teachers selected for this study were teaching candidates who had met the following criteria:

1. Attained senior standing with at least 30 semester hours completed at TAMU including at least six semester hours in approved professional courses.
2. Attained a minimum grade point ratio (GPR) of 2.25 based on the grade report form published by the registrar's office at TAMU.
3. Completed at least 75% of the course work required for the teaching fields with a minimum GPR of 2.25.
4. Admitted to the teacher education program at least one semester prior to student teaching. The evidence for this criterion includes a statement of personal commitment, minimum grade point ratio (2.25), three letters of recommendation, successful completion of English proficiency examination, and *early field experience course (*only required for EDCI majors).
5. Complete ten hours of professional education coursework (EPSY 301 - 3 hrs., EDCI 323 - 3 hrs., EDCI 401 - 4 hrs.)

The students who served as subjects for this study were members of those classes taught by the thirty classroom supervisors during a three semester period. These students attended schools in five Central Texas school districts.

Instrumentation

Information on the preparational backgrounds of the student teachers (i.e., over-all grade point average, average in teaching fields, and average in professional education courses) was furnished by the university. Information on cognitive attainment of the students was gathered through the administering of periodic criterion referenced tests by the student teachers and comparing pre- and post-test scores. These instruments, unique for each unit and each student teacher, represent a strength and potential limitation in the design of this investigation. As a strength, the student teacher with guidance from classroom and university supervisors developed tests related directly to the outcomes established for the performance objectives in each unit. Prior learning, extenuating classroom situations, and the abilities of the learners were taken into account in establishing both the objectives and the corresponding criterion tests. Under these conditions, the cognitive attainment measure indeed did sample the behavior called for in the performance objective.

A potential limitation of candidate-developed criterion-referenced tests for this investigation stems primarily from the lack of information on the reliability and validity of the respective instruments. Conventional reliability procedures appropriate for norm-referenced tests were not determined on the various criterion-referenced tests because the function of these tests (to determine an examinee's level of functioning with respect to a stated criterion) is not consistent with the function of norm-referenced tests (determine an individual's performance with respect

to the performance of others in the group) (Millman, 1974). Thus, while we are concerned, we are not unduly alarmed by the absence of these values. Validity of criterion-referenced instruments on the other hand, can be assessed by determining the logical relation of the performance objectives and the individual test items. Fortunately, this validity check was conducted by the classroom and university supervisors on each candidate's test before the instrument was administered to the learners.

Findings

Descriptive values for the three variables under investigation (i.e., teacher over-all grade point average, average in teaching fields, and average in professional education courses) were positive and significant (see Table 1).

Table 1

Descriptive Values for Variables of Interest

Variable	N	$\bar{X}$	S.D.
OGPR	39	2.95	.40
PEGPR	39	3.58	.37
TFA-GPR	40	3.08	.33
TFB-GPR	37	3.01	.41
PERACH1	1758	71.37	26.41
PERACH2	1758	66.41	30.13

OGPR=Over-all Grade Point Average for all TAMU courses
PEGPR=Professional Education Grade Point Average
TFA-GPR=Grade Point Average in Teaching Field A
TFB-GPR=Grade Point Average in Teaching Field B
PERACH1=Percent of Achievement on Unit 1
PERACH2=Percent of Achievement on Unit 2

F test scores for Unit One and Unit Two are positive for all four variables with the exception of the over-all grade point average and learner achievement as measured on Unit Two and the relationship between the grade point average in Teaching Field B as measured on the first Unit (see Table 2).

Table 2

F Test for Unit 1 and Unit 2 Comparisons

Independent Variable	F Values Unit 2	Unit 2
OGPR	279.52*	.00
PEGPR	10.85	7.46
TFA-GPR	.00	1.87
TFB-GPR	19.71	5.59

OGPR=Over-all Grade Point Average
PEGPR=Professional Education Grade Point Average
TFA-GPR=Grade Point Average in Teaching Field A
TFB-GPR=Grade Point Average in Teaching Field B

The only two stables in this study were the student teachers' grade point average in professional education courses and grade average in Teaching Field B. The discrepancy between the relation of Teaching Field B with learner achievement and the absence of a relation between Teaching Field A and learner achievement can be attributed to the fact that these student teachers were assigned to teach in only one of their qualified areas. The other field would obviously fail to affect that student learning which is measured on these particular tests. The lack

of stability between the over-all grade point average in the two units would indicate that over-all grade point ratio is not a stable predictor of success for a teacher's students, given our results.

Conclusion

The findings of this study are compatible with the recent trends in educational research findings cited earlier in this paper which report that those variables which significantly affect learner attainment appear to be long term variables, as opposed to immediate teacher behaviors. Other investigations on the effects of other variables in the preparatory programs of teachers on the attainment of their future students are needed.

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